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मानक

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IS 2716 (1972): Myrobalan extract [CHD 17: Leather, Tanning Materials and Allied Products]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 2716 - 1972

(Reaffirmed 2003)

Indian Standard
SPECIFICATION FOR
MYROBALAN EXTRACT
(*First Revision*)

First Reprint JULY 1982
(Incorporating Amendment No. 1)

UDC 675.042 : 633.879.48



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AMENDMENT NO. 3 JANUARY 1984

TO

IS:2716-1972 SPECIFICATION FOR MYROBALAN EXTRACT

(First Revision)

Alteration

[Page 4, Table 1, Sl No. (v), col (4)] - Substitute
'3.0 to 3.7' for '3.4 to 3.7'.

(CDC 36)

Reprography Unit, ISI, New Delhi, India



AMENDMENT NO. 2 JULY 1983

TO

IS : 2716-1972 SPECIFICATION FOR MYROBALAN EXTRACT

(First Revision)

Alteration

(Page 6, clauses 7.2, 7.2.1 and 7.2.2) -

Substitute the following for the existing clauses:

'7.2 Number of Tests - Tests for the determination of all the characteristics specified in Table 1 shall be conducted on the composite sample.'

(CDC 36)

Reprography Unit, ISI, New Delhi, India

Indian Standard

SPECIFICATION FOR MYROBALAN EXTRACT

(First Revision)

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Indian Standard

SPECIFICATION FOR MYROBALAN EXTRACT (*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 1 September 1972, after the draft finalized by the Tanning Materials and Allied Products Sectional Committee had been approved by the Chemical Division Council.

0.2 This standard was originally published in 1964. In this revision, methods of test, such as determination of copper and iron have been revised.

0.3 Myrobalans, fruits of the Indian trees of *Terminalia Chebula* Retz. (fam. Combretaceae), have been used in India for tanning of hides and skins from times immemorial. The vernacular names are *HARRA* (Hindi), *HIRDA* (Marathi), *ANALE* (Kannada), *KADAKAI* (Tamil), *KARAK-KAYA* (Telgu), *HARITAKI* (Bengali). The dried flesh (rind) of the myrobalan fruit which surrounds a single seed is rich in tannin. This tannin is of the hydrolyzable (pyrogallol) class and is well suited for blending with other tannins. Large quantities of the myrobalan fruit available are exported and considerable quantity is used for indigenous manufacture of the spray dried and solid extracts.

0.4 Apart from its major use as a tanning material, the extract is used on an extensive scale for treatment of locomotive feed waters. It is also finding an increasing use as an additive in oil drilling compositions. Purified tannic acid prepared from myrobalans is widely used in the commercial manufacture of inks. Its use as a mordant with basic aniline dyes and for weighting of black silk is also established. Some quantity of myrobalan is also used for medicinal purposes.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for myrobalan extract which is largely used for tanning and for treatment of locomotive feed waters and as an additive in oil drilling compositions.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 1640-1960* shall apply.

3. TYPES

3.1 The material shall be of the following two types:

- a) Solid Extract (SE), and
- b) Spray dried extract (SDE).

4. REQUIREMENTS

4.1 The material shall be made from the aqueous extract of myrobalans, the dried fruits of the Indian tree, *Terminalia chebula* Retz. (fam Combretaceae.)

4.2 The material shall comply with the requirements given in Table 1, when tested according to the methods indicated in col 5 of the table.

TABLE 1 REQUIREMENTS FOR MYROBALAN EXTRACT

SL No.	CHARACTERISTIC	REQUIREMENT FOR		METHOD OF TEST ((REF TO CL NO. IN IS : 5466-1969†))
		Type SE	Type SDE	
(1)	(2)	(3)	(4)	(5)
i)	Moisture, percent by weight, <i>Max</i>	10	6	6
ii)	*Non-tannins, percent by weight, <i>Max</i>	37	36	9
iii)	*Tannins, percent by mass, <i>Min</i>	53	60	10
iv)	*Insolubles, percent by mass, <i>Max</i>	4	3.5	11
v)	pH (analytical strength)	3.0 to 3.7	3.4 to 3.7	12
vi)	†Colour:			
	Red, <i>Max</i>	2.0	1.5	13
	Yellow/Red, <i>Min</i>	2.5	3	
vii)	*†Iron, mg/100 g, <i>Max</i>	5	5	14
viii)	*†Copper, mg/100 g, <i>Max</i>	5	5	15

*Calculated on moisture-free basis.

†These characteristics shall be tested only when the material is required for tanning.

‡Methods of test for vegetable tanning materials.

*Glossary of terms for hides, skins and leather.

5. KEEPING QUALITY

5.1 The material, when stored under normal conditions of storage in original unopened containers, shall continue to satisfy the characteristic prescribed in Table 1 for a minimum period of six months from the date of packing.

NOTE — The material is hygroscopic and, therefore, suitable precautions shall be taken during storage to protect it from atmospheric moisture and high temperature.

6. PACKING AND MARKING

6.1 Packing — Unless otherwise agreed to between the purchaser and the supplier, the material shall be packed in moisture-proof containers, like gunny bags, suitably lined with moisture-proof paper or polyethylene film.

6.2 Marking — The containers shall be marked with the following information:

- a) Name of the material;
- b) Type of the material;
- c) Net weight of the material;
- d) Manufacturer's name or recognized trade-mark, if any;
- e) Identification in code or otherwise to enable the lot of manufacture to be traced out from records;
- f) Date of packing; and
- g) Purpose for which the material is recommended.

6.2.1 The containers may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

7. SAMPLING

7.1 Preparation of Test Samples — Representative test samples of the materials shall be prepared as prescribed in Appendix A.

7.2 Number of Tests

7.2.1 Tests for the determination of tannins, non-tannins, moisture, insolubles and colour shall be conducted on each of the individual samples.

7.2.2 Tests for the determination of all other characteristics specified in Table 1 shall be conducted on the composite sample.

7.3 Criteria for Conformity — The lot shall be declared as conforming to the requirements of the specification if all the test results on individual as well as the composite samples meet the relevant stipulations for the different characteristics.

8. TEST METHODS

8.1 All tests shall be carried out as indicated in col 5 of Table 1.

APPENDIX A

(Clause 7.1)

PREPARATION OF TEST SAMPLES OF MYROBALAN EXTRACT

A-1. SCALE OF SAMPLING

A-1.1 Lot — In any consignment, all the containers of the material of the same size and drawn from a single batch of manufacture shall constitute a lot. If a consignment is known to consist of different batches of manufacture or of different sizes of containers, then the containers belonging to the same batch and sizes shall be grouped together and each such group shall constitute a separate lot.

A-1.2 For ascertaining the conformity of the lot to the requirements of the specification, tests shall be carried out for each lot separately. The number of containers to be selected for this purpose (n) shall depend on the size of the lot (N) and shall be in accordance with Table 2.

A-1.3 The containers shall be selected at random from the lot and in order to ensure randomness of selection, use of random number tables (see IS : 4905-1968*) shall be made. In case random number tables are not available the following procedure may be adopted. Arrange all the containers in the lot in a systematic manner and starting from any container, count them as 1, 2, ..., up to r and so on, r being the integral

*Methods for random sampling.

TABLE 2 NUMBER OF CONTAINERS TO BE SELECTED FOR SAMPLING

LOT SIZE	No. OF CONTAINERS TO BE SELECTED
N	n
(1)	(2)
Up to 40	3
41 to 65	4
66 „ 110	5
111 „ 180	6
181 „ 300	7
301 „ 500	8
501 „ 800	9
801 and above	10

part of N/n , where N is the lot size and n the number of containers to be selected. Every n th container thus counted shall be withdrawn to give sample for tests.

A-2. PROCEDURE

A-2.1 For taking out material from the containers, the latter shall be opened and the material taken out with the help of a sampling tool shown in Fig. 1 or any other suitable appliance. From each of the containers selected according to A-1.3 small portions of the material shall be drawn from different parts so as to get a representative sample. The total quantity of the material so collected from a container, shall be not less than eight times the quantity needed for testing as described in 7.2.

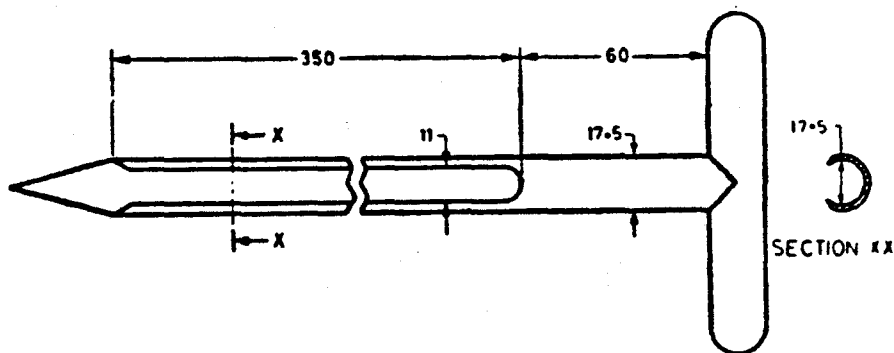


FIG. 1 SAMPLING TOOL

A-2.2 Out of these portions a small but equal quantity of the material shall be taken out and thoroughly mixed to form a composite sample, about 200 g in weight. The composite sample shall be divided into three equal parts, one for the purchaser, another for the supplier and the third to be used as a referee sample.

A-2.3 The remaining portion of the material from each container shall be divided into three equal parts, each forming an individual sample. One set of individual samples representing the n containers selected, shall be marked for the purchaser, another for the supplier and the third to be used as a referee sample.

A-2.4 All the individual and composite samples shall be immediately transferred to separate containers and shall be sealed air-tight and labelled with full identification particulars such as manufacturer's name or trade-mark, month and year of manufacture of the material, batch number (if available), date of sampling, sampler's name, etc.

NOTE — The time taken from the opening of original containers to the sealing of samples shall be as short as possible, care being taken to protect the sample from moisture and other adventitious contamination.

A-2.5 The referee test samples consisting of a composite sample and a set of n individual samples shall bear the seal of both the purchaser and the supplier. They shall be kept at a place till such time as agreed to between the purchaser and the supplier to be used in case of any dispute between the two.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	Kelvin	K
Luminous Intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>	<i>Conversion</i>
Force	newton	N	1 N = 1 kg.m/s ²
Energy	Joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla		1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	slemens	S	1 S = 1 A/V
Preseure, stress	pascal	Pa	1 Pa = 1 N/m ²

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